PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	or agent's file reference FOR FURTHER see Form PCT/ISA/220		see Form PCT/ISA/220
P 03/117-bz/gs	ACTION	as well as, where applicable, item 5 below.	
International application No.	International filing date (day/mont	h/year)	(Earliest) Priority Date (day/month/year)
PCT/EP2004/006943	25/06/2004	25/06/2004 26/06/2003	
Applicant	<u></u>		
MERCK PATENT GMBH			
This International Search Report has been according to Article 18. A copy is being tra			ority and is transmitted to the applicant
This International Search Report consists	of a total of she	ets.	
X It is also accompanied by	a copy of each prior art document c	ited in this i	report.
	international search was carried out ess otherwise indicated under this it		is of the international application in the
The international this Authority (Rul		of a transla	ation of the international application furnished to
b. X With regard to any nucleo	otide and/or amino acid sequence	disclosed i	in the international application, see Box No. I.
2. Certain claims were four	2. Certain claims were found unsearchable (See Box II).		
3. X Unity of invention is lack	3. X Unity of invention is lacking (see Box III).		
4. With regard to the title,			
X the text is approved as su	bmitted by the applicant.		
the text has been establis	hed by this Authority to read as follo	ws:	
5. With regard to the abstract,	مدوداند وما المعاندة		
X the text is approved as su		nis Authorit	y as it appears in Box No. IV. The applicant
			h report, submit comments to this Authority.
6. With regard to the drawings,			
a. the figure of the drawings to be p	ublished with the abstract is Figure	No	
as suggested by t	• •		
	is Authority, because the applicant fa	-	
	is Authority, because this figure bette e published with the abstract.	:i charactei	nzes tre invention.
D. A. Hone of the lightes is to be	s published with the abstract.		

International application No.

PCT/EP2004/006943

Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet) Box No. I With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of: type of material Х a sequence listing table(s) related to the sequence listing format of material Х in written format Х in computer readable form time of filing/furnishing contained in the international application as filed filed together with the international application in computer readable form furnished subsequently to this Authority for the purpose of search In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished. 2. 3. Additional comments:

International Application No PCT/EP2004/006943

According to infernational Patient Classification (PC) or to both national classification and IPC According to infernational Patient Classification system tolowed by classification symbols) FELDS SEARCHED Minimum obconeroistions searched (classification system tolowed by classification symbols) IPC 7 CO7K AGIK Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Documentation searched other than minimum documentation to the extent that such documents are included in the fields search terms used) ERFO-Internal, BIOSIS, WPI Data, PAJ US 6 028 170 A (KU ET AL) 22 February 2000 (2000-02-22) "Analogs of hirudin" abstract column 2, line 13 - line 67 -/ "Powered classified by polithed on or after the international filing date "Comment state that published on or after the international filing date "Comment state that published on a date the line framework of the contained by the published on a contained by the published on a date that his published on a contained by the published on a con		·		
In Facility Search (classification system followed by classification symbols) IPC 7 COTK A61K	A. CLASSIF IPC 7	CO7K14/815 A61K38/58		
In Full Description In Search In Sea	According to	International Patent Classification (IPC) or to both national classificat	ion and IPC	
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the International search (name of data base and, where practical, search terms used) EPO-Internal, BIOSIS, WPI Data, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Challon of document, with indication, where appropriate, of the relevant passages US 6 028 170 A (KU ET AL) 22 February 2000 (2000-02-22) "Analogs of hirrudin" abstract column 2, line 13 - line 67 -/ "Special categories of cited documents: "Special categories of cited documents: "A document efficing the general state of the art which is not considered to be of puritualized relevance "E" earlier documents but published or or after the International fling data 1" document efficing the general state of the art which is not considered to be of puritual relevance "I" document efficing the general state of the art which is not considered to be of puritual relevance "I" document efficing the general state of the art which is not considered to be of puritual relevance the caleboal in the published or or after the International fling data "I" document of efficing the general state of the art which is not or addition or other special reason, (as specifical or addition or other special reason (as specifical) or other special reason (as specifical) "Or document of published or other special reason (as specifical) or other specia				
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, BIOSIS, WPI Data, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Claim of document, with indication, where appropriate, of the relevant passages Relevant to claim No. 1-8 INS 6 028 170 A (KU ET AL) 22 February 2000 (2000-02-22) "Analogs of hirudin" abstract column 2, line 13 - line 67 -/ *Special categories of cited documents: 'A' document defining the general state of the art which is not considered to be of particular relevance. 'E' earlier domain but published and relevance and artificial informational vehicles decide to stabilish the published artificial relevance in the continuation of the special reason (as specified) 'C' document which may throw doubts on priority claim(s) or which is decide to stabilish the published or all control with a special reason (as specified) 'C' document which may throw doubts on priority claim(s) or other special reason (as specified) 'C' document defining the general state of the international transition or other special reason (as specified) 'C' document defining the general state of the international transition or other special reason (as specified) 'C' document published artificial to the international filing date but state filing the priority date claims of the section of the international state of the international search 4 July 2005 Name and mailing address of the ISA Authorized officer	Minimum doc IPC 7	cumentation searched (classification system followed by classification CO7K A61K	n symbols)	
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, BIOSIS, WPI Data, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Claim of document, with indication, where appropriate, of the relevant passages Relevant to claim No. 1-8 INS 6 028 170 A (KU ET AL) 22 February 2000 (2000-02-22) "Analogs of hirudin" abstract column 2, line 13 - line 67 -/ *Special categories of cited documents: 'A' document defining the general state of the art which is not considered to be of particular relevance. 'E' earlier domain but published and relevance and artificial informational vehicles decide to stabilish the published artificial relevance in the continuation of the special reason (as specified) 'C' document which may throw doubts on priority claim(s) or which is decide to stabilish the published or all control with a special reason (as specified) 'C' document which may throw doubts on priority claim(s) or other special reason (as specified) 'C' document defining the general state of the international transition or other special reason (as specified) 'C' document defining the general state of the international transition or other special reason (as specified) 'C' document published artificial to the international filing date but state filing the priority date claims of the section of the international state of the international search 4 July 2005 Name and mailing address of the ISA Authorized officer	Documentati	on searched other than minimum documentation to the extent that su	ch documents are included in the fields sea	arched
EPO-Internal, BIOSIS, WPI Data, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Cataiton of document, with indication, where appropriate, of the relevant passages US 6 028 170 A (KU ET AL) 22 February 2000 (2000-02-22) "Analogs of hirudin" abstract column 2, line 13 – line 67 -/ *Special categories of cited documents:				
C. DOCUMENTS CONSIDERED TO BE RELEVANT Category* Catalogory* Catalogory* Us 6 028 170 A (KU ET AL) 22 February 2000 (2000-02-22) "Analogs of hirudin" abstract column 2, line 13 – line 67 -/ *Special categories of cited documents: *A document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the International filling date or which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish developed the profilezation date of another which is case to establish developed the profilezation date of another which is case to establish developed the profilezation date of another which is case to establish developed the profilezation date of another which is case to establish developed the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establish the profilezation date of another which is case to establi			e and, where practical, search terms used)	
Category* Catalion of document, with indication, where appropriate, of the relevant passages US 6 028 170 A (KU ET AL) 22 February 2000 (2000–02–22) "Analogs of hirudin" abstract column 2, line 13 – line 67 ——— **Special categories of cited documents: **A document defining the general state of the art which is not considered to be of particular relevance **It earlier document but published on or after the International fling date **U document which may throw doubts on priority claim(s) or which is clattor or other repeat i reason (as specified) **O' document telering to an oral disclosure, use, exhibition or other repeat ire son, (as specified) **O' document published prior to the international fling date but start than the priority date claimed invention orannot be considered to involve an inventive step when the document is taken alone **O' document published prior to the international fling date but start than the priority date claimed invention around the priority date and not in conflict with the application but claim or other special reason (as specified) **Coursent which may throw doubts on priority claim(s) or which is claimed invention around the considered novel or cannot be considered to invention around be considered to focument is combined with one or more other study and the priority date and not in conflict with the application but claimed invention around the priority date and not in conflict with the application but claimed to expect the considered to invention around the considered novel or cannot be considered to invention around the considered to invention around the priority date and not in conflict with the around the priority date and not in conflict with the application but claimed to expect the priority date and not in conflict with the around the priority date and not in conflict with the around the priority date and not in conflict with the around the priority date and not i	EPO-Int	ternal, BIOSIS, WPI Data, PAJ		
Category* Catalion of document, with indication, where appropriate, of the relevant passages US 6 028 170 A (KU ET AL) 22 February 2000 (2000–02–22) "Analogs of hirudin" abstract column 2, line 13 – line 67 —/— X Further documents are listed in the continuation of box C. Special categories of cited documents: A document defining the general state of the art which is not considered to be of particular relevance. See "E earlier document but published on or after the International fling date "It document which may throw doubts on priority claim(s) or which is clad to establish the publication date of another citation or other special reason (as specified). "O' document referring to an oral disclosure, use, exhibition or other means." Po document published or or other the international fling date but start the the priority date claimed invention among the considered to involve an inventive step when the document to particular relevance; the claimed invention among to the succurrent to combined with one or more other succurrent is combined with one or more other succurrent to succurrent is combined with one or more other succurrent. 1 at document of particular relevance; the claimed invention a				
Section of the continuation of the continuation of box C.	C. DOCUME			Palovant to claim No.
22 February 2000 (2000–02–22) "Analogs of hirudin" abstract column 2, line 13 – line 67 -/ *Special categories of clied documents: A document defining the general state of the art which is not considered to be of particular relevance or relation or other special reason (as specified) C document which has throw doubts on priority claim(s) or clied to understand the principle date of the publication date of another cliation or other special reason (as specified) C document eight gride and not in conflict with the application but client or the considered to be of particular relevance or the considered to be of particular relevance or the claimed furnention gride the publication date of another cliation or other special reason (as specified) C document referring to an oral disclosure, use, exhibition or other means P document published prior to the international filing date but later than the priority date claimed A July 2005 Name and mailing address of the ISA Authorized officer	Category °	Citation of document, with indication, where appropriate, of the rele	vant passages	Helevani to Gain No.
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8' document member of the same patent family Date of mailing of the international search report *1. 08. 2005 Name and mailing address of the ISA Authorized officer	× (22 February 2000 (2000-02-22) "Analogs of hirudin" abstract	/	1-8
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document published prior to the international filing date but later than the priority date claimed *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is to exhibit the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8' document member of the same patent family Date of mailing of the international search report *1. 08. 2005 Name and mailing address of the ISA Authorized officer		-	/	
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8' document member of the same patent family Date of mailing of the international search report *1. 08. 2005 Name and mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8' document member of the same patent family Date of mailing of the international search report *1. 08. 2005 Name and mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8' document member of the same patent family Date of mailing of the international search report *1. 08. 2005 Name and mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8' document member of the same patent family Date of mailing of the international search report *1. 08. 2005 Name and mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8' document member of the same patent family Date of mailing of the international search report *1. 08. 2005 Name and mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8' document member of the same patent family Date of mailing of the international search report *1. 08. 2005 Name and mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&' document member of the same patent family Date of mailing of the international search report *A July 2005 *Authorized officer *T' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents is combined with one or more other such documents. *A' document member of the same patent family Date of mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&' document member of the same patent family Date of mailing of the international search report *A July 2005 *Authorized officer *T' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents is combined with one or more other such documents. *A' document member of the same patent family Date of mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&' document member of the same patent family Date of mailing of the international search report *A July 2005 *Authorized officer *T' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents is combined with one or more other such documents. *A' document member of the same patent family Date of mailing address of the ISA Authorized officer				
*Special categories of cited documents: *A' document defining the general state of the art which is not considered to be of particular relevance *E' earlier document but published on or after the international filing date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&' document member of the same patent family Date of mailing of the international search report *A July 2005 *Authorized officer *T' tater document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention cannot be considered novel or cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents, such combined with one or more other such documents is combined with one or more other such documents. *A' document member of the same patent family Date of mailing address of the ISA Authorized officer				
A document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the International filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other means *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *Date of the actual completion of the International search *A* document defining the general state of the art which is not considered to but invention and the considered in the principle or theory underlying the invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *A* document member of the same patent family Date of mailing of the international search report *A* document member of the same patent family Date of mailing address of the ISA Authorized officer	X Furt	her documents are listed in the continuation of box C.	X Patent family members are listed i	n annex.
*A' document defining the general state of the art which is not considered to be of particular relevance: *E' earlier document but published on or after the International filling date *L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O' document referring to an oral disclosure, use, exhibition or other means *P' document published prior to the international filling date but later than the priority date claimed *Date of the actual completion of the international search *A July 2005 Name and mailing address of the ISA *Cited to understand the principle or theory underlying the invention cited to understand the principle or theory underlying the invention cited to understand the principle or theory underlying the invention cannot be considered to involve an inventive step when the document to particular relevance; the claimed invention cannot be considered to involve an inventive step when the document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *& document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *& document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone *Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone *Y' document of particular relevance; the claimed invention cannot be considered to	° Special ca	ategories of cited documents:	*T* later document published after the inte	mational filing date
E earlier document but published on or after the International filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed Date of the actual completion of the International search 4 July 2005 Name and mailing address of the ISA *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *8* document member of the same patent family Date of mailing of the international search report Authorized officer	"A" docum	ent defining the general state of the art which is not	cited to understand the principle or the	the application but eory underlying the
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O" document referring to an oral disclosure, use, exhibition or other means *P" document published prior to the international filling date but later than the priority date claimed *A July 2005 Name and mailing address of the ISA involve an inventive step when the document is taken alone 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is considered to involve an inventive step when the document is taken alone 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone involve an inventive step when the document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is taken alone 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document of particular relevance; the claimed 'Y' document of particular relevance; the claimed 'Y' document of particular relevance; the claimed 'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document of particular relevance; the claimed in	'E' earlier	document but published on or after the international	"X" document of particular relevance; the o	taimed invention
which is cited to establish the publication date of another diation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filling date but later than the priority date claimed "B" document published prior to the international filling date but later than the priority date claimed "B" document published prior to the international filling date but later than the priority date claimed "B" document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "B" document member of the same patent family Date of mailing of the international search report 1 1. 08. 2005 Name and mailing address of the ISA Authorized officer	"I " docume	ent which may throw doubts on priority claim(s) or	involve an inventive step when the do	cument is taken alone
other means *P* document published prior to the international filing date but later than the priority date claimed *B* document member of the same patent family Date of the actual completion of the international search 4 July 2005 Name and mailing address of the ISA Authorized officer *B* document member of the same patent family Date of mailing of the international search Authorized officer	citatio	on or other special reason (as specified)	cannot be considered to involve an in-	ventive step when the
P document published prior to the international filing date but safer than the priority date claimed *8* document member of the same patent family Date of the actual completion of the international search 4 July 2005 Name and mailing address of the ISA Authorized officer			ments, such combination being obvious	ore other such docu- us to a person skilled
4 July 2005 1 1. 08. 2005 Name and mailing address of the ISA Authorized officer	*P* docum later t	*P* document published prior to the international filing date but in the art.		
Name and mailing address of the ISA Authorized officer	Date of the	actual completion of the international search	Date of mailing of the international sea	rch report
lyalitie and maining address of the love	4	July 2005	1 1. 08. 200	5
European Patent Unice, r.b. 3010 ratemaan 2	Name and		Authorized officer	
NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Servi (-31-70) 340-2040, Tx. 31 651 epo nl, Niebuhr-Ebel, K		NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,	Niebuhr-Fhel K	

6

International Application No
PCT/EP2004/006943

		PC1/EP2004/000943
	citation DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Category °	Citation of document, with mulcation, where appropriate, or the relevant passages	
A (2)	MURAMATSU RYO ET AL: "Existence of beta-methylnorleucine in recombinant hirudin produced by Escherichia coli." JOURNAL OF BIOTECHNOLOGY. 14 FEB 2002, vol. 93, no. 2, 14 February 2002 (2002-02-14), pages 131-142, XP002334171 ISSN: 0168-1656 abstract page 135, left-hand column, last paragraph - right-hand column, paragraph 1 page 140, right-hand column, last paragraph	1-8
A (B)	BRAUN P J ET AL: "Use of site-directed mutagenesis to investigate the basis for the specificity of hirudin." BIOCHEMISTRY. 23 AUG 1988, vol. 27, no. 17, 23 August 1988 (1988-08-23), pages 6517-6522, XP002325668 ISSN: 0006-2960 abstract figure 1 table 1	1-8
A Y	DODT J ET AL: "Interaction of site specific hirudin variants with alpha-thrombin." FEBS LETTERS. 29 FEB 1988, vol. 229, no. 1, 29 February 1988 (1988-02-29), pages 87-90, XP001206241 ISSN: 0014-5793 abstract page 88, left-hand column, last paragraph - right-hand column, paragraph 1 table 1	1-8
(T)	KRSTENANSKY J L ET AL: "ANTICOAGULANT PEPTIDES NATURE OF THE INTERACTION OF THE CARBOXYL-TERMINAL REGION OF HIRUDIN WITH NONCATALYTIC BINDING SITE ON THROMBIN" JOURNAL OF MEDICINAL CHEMISTRY, vol. 30, no. 9, 1987, pages 1688-1691, XP002325669 ISSN: 0022-2623 abstract table III	1-8

6

Information on patent family members

International Application No
PCT/EP2004/006943

Patent docur cited in search		Publication date		Patent family member(s)	Publication date
US 602817	0 A	22-02-2000	US AU WO WO	5837808 A 7721594 A 9507295 A1 9304082 A1	17-11-1998 27-03-1995 16-03-1995 04-03-1993

International application No. PCT/EP2004/006943

INTERNATIONAL SEARCH REPORT

Box II C	Observations where certain claims were found unsearchable (Continuation of item 2 of first sneet)
This Intern	national Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. C	Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
	Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. 🔲 (Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box III	Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)
	rnational Searching Authority found multiple inventions in this international application, as follows:
	see additional sheet
	As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. X	As only some of the required additional search fees were timely paid by the applicant, this international Search Report covers only those claims for which fees were paid, specifically claims Nos.:
	1, 2, 7, 8 in part and 3-6 completely
4.	No required additional search fees were timely paid by the applicant. Consequently, this International Search Report Is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Remark	The additional search fees were accompanied by the applicant's protest. X No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

Invention 1: claims 1-8 (partially)

A modified hirudin molecule having a substitution L \rightarrow T at position 13 and a pharmaceutical composition comprising said molecule.

Inventions 2-6: claims 1-8 (partially)

Modified hirudin molecules having a substitution $L \to T$, A, H, Q or T at position 15 and a pharmaceutical composition comprising such a molecule.

Inventions 7-14: claims 1-8 (partially)

Modified hirudin molecules having a substitution $V \to A$, G, H, K, N, P, Q or R at position 21 and a pharmaceutical composition comprising such a molecule.

Inventions (further): claims 1-8 (in part)

Modified hirudin molecules having a substitution at position 29, 30, 40, 47, 48, 53, or 57 and a pharmaceutical composition comprising said molecule.

Inventions (further): claims 1-8 (in part)

All combinations of modifications at more than one position as referred to in claim 1 and a pharmaceutucal composition comprising such a molecule.

Inventions (further): claims 9 and 10

A peptide molecule as mentioned in claim 9 and its use for the manufracture of a modified hirudin molecule.